

I claim:

1. A movable, protective, sawdust collection hood for use with a table saw, said table saw having a horizontal worktable with front and rear sides, a circular saw blade mounted below the worktable and having a peripheral portion thereof extending above the worktable rotating toward the front side of the worktable, and a splitter having a portion extending above the rear side of the worktable, comprising:

(a) a pair of spaced-apart, vertical side panels, each side panel having a front, central and rear portion, the central and rear portions thereof having a common, straight, horizontal, lower edge, and the front portion thereof being disposed generally forwardly and downwardly from a forward terminus of said lower edge;

(b) a forwardly inclined nose panel mounted between lower edges of the front portions of the side panels, and having horizontal trailing edge;

(c) an upper cowl mounted between the side panels, said upper cowl having a substantially vertical, front portion terminating at a forward edge that engages an upper surface of the nose panel, and having a rearwardly-extending, upwardly inclined portion terminating at a rear edge;

(d) a lower cowl mounted between the side panels below the upper cowl, and having a substantially vertical, front portion and rearwardly-extending, substantially horizontal, central and rear portions, said front portion terminating in a horizontal forward edge disposed generally above the trailing edge of the nose panel;

(e) a pair of vertical side skirts, each of said skirts being movable between a first, lowered position and a second, raised position;

(f) means attached to the side panels for suspending a side skirt from each of the side panels; and

(g) pivot means attached to the splitter for moving the hood between a retracted position and a working position directly over and straddling the saw blade;

whereby, when the hood is in a working position, movement of a work piece rearward against a lower surface of the nose panel first causes the hood to rise, and thereafter, with further rearward movement of the work piece, causes the trailing edge of the nose panel and the side skirts to rest on and make sliding contact with an upper surface of the work piece until the work piece has cleared the nose panel, whereafter the hood drops down to a position such that the trailing edge of the nose panel rests upon the worktable while the side skirts continue to maintain sliding contact with the upper surface of the work piece until the entire work piece has cleared the side skirts, whereupon the side skirts also drop down to the worktable, and whereby further, air enters the hood through an intake opening defined by the rear portions of the side skirts and the rear portion of the lower cowl, thence streams forward over the work piece and saw blade and through an orifice defined by the forward edge of the lower cowl, the trailing edge of the nose panel and the front portions of the side panels, and thereafter is conducted rearwardly between an upper surface of the lower cowl and a lower surface of the upper cowl to exit the hood.

2. The hood of claim 1, further comprising:

(a) a rear discharge wall mounted between an upper surface of a central portion of the lower cowl and the rear edge of the upper cowl, said rear discharge wall having an air discharge hole; and

(b) means for attachment of a vacuum conduit, said means attached to a rear surface of said rear discharge wall and aligned with said air discharge hole.

3. The hood of claim 2, wherein the front portions of the upper and lower cowls are convexly curved.

4. The hood of claim 3, wherein the upper cowl has a lower front portion that is forwardly inclined and the forward edge of the upper cowl is tapered for close-fitting engagement with an upper surface of the nose panel.

5. The hood of claim 4, further comprising at least one forwardly and downwardly inclined, deflector panel disposed above the entrance to the orifice, said panel extending laterally between the

side panels.

6. The hood of claim 1, wherein one or more of the side panels, upper cowl, lower cowl, and side skirts is made of a transparent material.

Sub 347 7. The hood of claim 1, 2, 3, 4, 5, or 6 wherein the pivot means attached to the splitter for moving the hood between a retracted position and a working position directly over and straddling the saw blade comprises a single pivot attachment of the hood to the splitter, whereby the hood is rotatable about a horizontal axis, and wherein further, each of the side skirts has a substantially vertical slot, and the means for suspending each side skirt from the side panel adjacent thereto comprises:

(a) a slot pin, said pin being attached to and extending laterally outward from said side panel and through said slot;

(b) retainer means attached to said pin for retaining said pin within said slot and for retaining said skirt adjacent to said side panel; and

(c) stop means attached to the hood for limiting the extent of downward movement of the side skirts when the hood is raised away from the work table.

8. The hood of claim 7, wherein the stop means is attached to an upper rear edge of each side skirt for abutting engagement of an upper rear edge of the side panel adjacent said skirt when said skirt is in a lowered position.

9. The hood of claim 8, wherein each slot is forwardly and upwardly inclined at about thirty degrees declination from vertical.

a 10. The hood of claim 1, 2, 3, 4, 5, or 6, wherein the pivot means attached to the splitter for moving the hood between a retracted position and a working position directly over and straddling the saw blade comprises a first parallel pair of equal-length, link arms, disposed on opposite sides of the splitter and the hood, each of said arms having a first end pivotally attached to an upper, rear portion of the splitter on a first horizontal axis and an opposite end pivotally attached to a side panel of the hood, and a

second, parallel pair of equal-length, link arms, each of said arms having a first end pivotally attached to opposite sides of a front portion of the splitter, and a second end pivotally attached to an inside surface of a side panel below the lower cowl; and wherein each side panel has a substantially vertical, arcuate slot, and the means attached to the side panels for suspending a side skirt from each of the side panels comprises:

(a) a slot pin, said pin being attached to and extending laterally outward from said side panel and through said slot;

(b) retainer means attached to said pin for retaining said pin within said slot and for retaining said skirt adjacent to said side panel; and

(c) a side skirt support means, including at least one pair of parallel, equal-length, skirt support arms disposed on opposite sides of the hood, each of said support arms having a first end pivotally attached to a side panel and a second end pivotally attached to a side skirt.

11. The hood of claim 10, wherein the stop means is attached to an upper rear edge of each side skirt for abutting engagement of an upper rear edge of the side panel adjacent said skirt when said skirt is in a lowered position.

12. The hood of claim 11, wherein each slot is forwardly and upwardly inclined at about thirty degrees declination from vertical.

13. A movable, protective, sawdust collection hood for use with a table saw, said table saw having a horizontal worktable with front and rear sides, a circular saw blade mounted below the worktable and having a peripheral portion thereof extending above the worktable rotating toward the front side of the worktable, and a laterally movable fence for guiding a work piece past the saw blade, comprising:

(a) a pair of spaced-apart, vertical side panels, each side panel having a front, central and rear portion, the central and rear portions thereof having a common, straight, horizontal, lower edge, and the front portion thereof being disposed generally

forwardly and downwardly from a forward terminus of said lower edge;

(b) a forwardly inclined nose panel mounted between lower edges of the front portions of the side panels and having a horizontal trailing edge;

(c) an upper cowl mounted between the side panels, said upper cowl having a substantially vertical, front portion terminating at a forward edge that engages an upper surface of the nose panel, and having a rear portion terminating at a rear edge;

(d) a lower cowl mounted between the side panels below the upper cowl, and having a substantially vertical, front portion and a rear portion, said front portion terminating in a horizontal forward edge disposed generally above the trailing edge of the nose panel;

(e) a pair of vertical side skirts, each of said skirts being movable between a first, lowered position and a second, raised position;

(f) means attached to the side panels for suspending a side skirt from each of the side panels;

(g) vacuum conduit means for drawing sawdust and wood chips away from the saw blade and through the hood; and

(h) pivot means for moving the hood between a retracted position and a working position directly over and straddling the saw blade, said means including a collar joint comprising

(1) a first, semicylindrical, partial collar attached to an intake end of the vacuum conduit means, said first partial collar being axially aligned on a lateral axis A'-A' and extending between rear portions of the side panels, and said first partial collar having front and rear openings;

(2) a second, semicylindrical, partial collar that partially surrounds and engages said first, partial collar, said second partial collar being rotatable about said lateral axis A'-A' and about a front, exterior surface of said first partial collar, said second partial collar being disposed between an upper surface of a rear edge of the lower cowl and a rear edge of the upper cowl

and between rear portions of the side panels, and said second partial collar having an air discharge hole that is in register with the front and rear openings of the first partial collar when the hood is in a working position directly over and straddling the saw blade; and

(3) a collar pin laterally inserted along axis A'-A' through the rear portions of the side panels and through the first and second partial collars;

whereby, when the hood is in a working position, movement of a work piece rearward against a lower surface of the nose panel first causes the hood to rise, and thereafter, with further rearward movement of the work piece, causes the trailing edge of the nose panel and the side skirts to rest on and make sliding contact with an upper surface of the work piece until the work piece has cleared the nose panel, whereafter the hood drops down to a position such that the trailing edge of the nose panel rests upon the worktable while the side skirts continue to maintain sliding contact with the upper surface of the work piece until the entire work piece has cleared the side skirts, whereupon the side skirts also drop down to the worktable, and whereby further, air enters the hood through an intake opening defined by the rear portions of the side skirts and a rear portion of the second partial collar, thence streams forward over the work piece and saw blade and through an orifice defined by the forward edge of the lower cowl, the trailing edge of the nose panel and the front portions of the side panels, and thereafter is conducted rearwardly between an upper surface of the lower cowl and a lower surface of the upper cowl and through the collar joint to exit the hood.

14. The hood of claim 13, wherein the vacuum conduit assembly comprises:

a vacuum source connected to an electric power source;

a laterally disposed, elongated, hollow boom having an intake end and an opposite, discharge end;

a hollow head stock mounted to the intake end of the boom, said head stock having an intake duct in communication with the

interior of the head stock and in communication with the collar joint;

a movable vacuum hose within the boom, having an intake end storable within the head stock, and an opposite, discharge end;

a ring seal circumsposed about the discharge end of the movable vacuum hose;

a stationary vacuum hose having a first end attached to the discharge end of the boom and an opposite end attached to the vacuum source;

whereby a vacuum created by the vacuum source is communicated through the hoses to the head stock and thence to the hood.

15. The hood of claim 14, wherein the boom comprises a stationary portion and, in telescoping relation thereto, a laterally movable portion, the laterally movable portion being attached to the head stock, and further comprising rack and pinion means attached to the boom for making lateral adjustments of the position of hood with respect to the saw blade and the fence.

16. The hood of claim 15, further comprising means for retaining the hood in a raised, storage position.

17. The hood of claim 16, wherein the nose panel has a retainer opening and the means for retaining the hood in a raised, storage position is a spring-loaded catch insertable into said retainer opening for locking the hood in a raised position.

18. The hood of claim 17, further comprising a momentary switch mounted on the head stock and wired in series with the electric power source, whereby the vacuum source becomes energized whenever the spring-loaded catch is released and the hood is rotated away from the head stock, and the vacuum source is de-energized when the hood is rotated back into contact with said electric switch.

19. The hood of claim 18, further comprising a removable cap attached to the head stock,

whereby, with the cap removed, the intake end of the movable vacuum hose may be pulled out of the head stock and used to vacuum clean the table saw and its immediate environs, and thereafter replaced inside the head stock.

20. The hood of claim 12, 13, 14, 15, 16, 17, 18, or 19, wherein the means for suspending each side skirt from the side panel adjacent thereto comprises:

(a) a slot pin, said pin being attached to and extending laterally outward from said side panel and through said slot;

(b) retainer means attached to said pin for retaining said pin within said slot and for retaining said skirt adjacent to said side panel; and

(c) stop means attached to the hood for limiting the extent of downward movement of the side skirts when the hood is raised away from the work table.

21. The hood of claim 20, wherein the stop means is attached to an upper rear edge of each side skirt for abutting engagement of an upper rear edge of the side panel adjacent said skirt when said skirt is in a lowered position with respect to the nose panel.

22. The hood of claim 21, wherein each slot is forwardly and upwardly inclined at about thirty degrees declination from vertical.

23. The hood of claim 22, further comprising at least one forwardly and downwardly inclined, deflector panel disposed above the entrance to the orifice, said panel extending laterally between the side panels.